FreshFacts

NEW ZEALAND HORTICULTURE 2020

Horticulture™ New Zealand
Ahumāra Kai Aotearoa

Plant & Food™ Research
Rangahau Ahumāra Kai

Reporting basis: unless stated otherwise, all statistics are for the year ending 30 June 2020 and expressed as $NZ. Exports are given as free-on-board (fob) values. Imports are given as cost, insurance and freight included (cif). Historical values have not been adjusted for inflation.

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On-line: this edition and past editions can be downloaded at 'www.freshfacts.co.nz'. Also available is the Fresh Facts online tool from which users can define and view graphs of export values for the main New Zealand horticultural crops back to the 1999 edition.

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New Zealand exports exceed $6.6 billion

In 2020, the New Zealand horticultural industry reached a new high, with total produce estimated to exceed $10 billion for the first time. Horticultural exports increased by 7%, earning more than $6.6 billion, more than 11% of New Zealand's merchandise exports.

Fresh fruit export earnings have increased by 8% to $3.7 billion, with key categories – including kiwifruit (10% on 2019), apples (6%) and avocado (8%) – demonstrating strong growth. New Zealand wine export earnings have also grown to $1.9 billion, a 6% increase. Whilst export earnings from fresh vegetables have remained static at $300 million, processed vegetables have also increased by 7% to $424 million. Vegetable seed export earnings have increased by 95% over the past decade to $112 million, predominantly due to increased demand for carrot and radish seed.

In a year affected by the COVID-19 pandemic, New Zealand's horticulture industry has demonstrated resilience and our produce is more in demand than ever. Our reputation for high quality and safe food, combined with excellent growing systems and novel products, is vital in maintaining New Zealand's share of the global marketplace.

Plant & Food Research is proud to be able to support the New Zealand horticulture industry in continuing to excel, providing the science that helps the industry maintain its global reputation as an innovative and environmentally-conscious provider of excellent food. We are committed to working together with the horticulture industry to create a smart green future for Aotearoa New Zealand.

David Hughes.

David Hughes
CEO, Plant & Food Research

Horticultural exports, year ended June *($ million, fob)*

	2000	2005	2010	2015	2019	2020
Fresh fruits						
- Kiwifruit	462.0	720.2	995.7	1,181.9	2,302.2	2,533.6
- Apples	404.5	387.0	324.6	561.8	828.8	876.3
- Avocados	25.2	29.0	59.9	115.5	104.3	112.3
- Cherries	5.6	10.5	22.7	52.3	68.9	51.3
- Blueberries	6.8	9.2	16.0	23.4	38.9	44.4
- Other fresh fruits	58.5	31.8	36.0	47.2	48.9	45.4
Total fresh fruit	962.6	1,187.7	1,454.9	1,982.1	3,392.0	3,663.3
Processed fruits						
- Wine	169.8	432.7	1,036.8	1,406.2	1,806.6	1,908.5
- Fruit - juices	24.7	34.5	31.7	46.5	49.4	51.4
- Hops - cones & extracts		9.5	6.2	12.8	21.0	39.9*
- Other processed fruits	47.6	57.8	117.3	101.8	67.2	75.7
Total processed fruit	242.1	534.5	1,192.0	1,567.3	1,944.2	2,075.5
Fresh vegetables						
- Onions	78.6	61.6	113.4	81.5	170.3	147.6
- Squash	60.3	72.1	53.2	58.7	59.7	79.2
- Potatoes	13.3	12.3	15.9	20.3	22.6	19.6
- Capsicums	15.1	25.7	33.8	27.5	20.6	24.7
- Other fresh vegetables	46.0	28.3	31.4	28.0	30.9	29.7
Total fresh vegetables	213.3	200.0	247.7	216.0	304.1	300.8
Processed vegetables (frozen/dried/other processes)						
- Potatoes	17.9	56.9	82.0	92.5	106.8	106.9
- Peas	40.6	36.9	72.9	84.8	96.5	115.4
- Sweetcorn	39.3	43.4	38.0	38.5	41.4	47.6
- Beans	17.0	36.5	45.0	44.7	41.1	42.0
- Vegetable juices		6.6	19.4	30.3	31.9	33.5
- Beetroot				0.1	24.8	24.1
- Mixed vegetables (frozen)	29.1	36.0	36.1	34.2	22.0	22.1
- Other vegetables (frozen)		11.4	9.9	12.0	14.8	23.5
- Other processed vegetables	30.5	36.6	17.8	38.0	16.5	8.6
Total processed vegetables	174.4	264.3	321.1	375.1	395.8	423.7
Other horticultural exports						
Flowers & foliage	46.2	38.5	35.1	22.9	20.0	18.5
Vegetable seeds	15.9	30.2	57.4	62.2	87.1	112.2
Seeds, plants, bulbs, moss, etc.	38.7	50.9	47.4	48.9	56.9	58.2
Total other horticultural exports	100.8	119.6	139.9	134.0	**164.0**	**188.9**
Total exports in current $	**1,693.2**	**2,306.1**	**3,355.6**	**4,274.5**	**6,200.1**	**6,652.2**
Horticultural exports						
as % of NZ merchandise exports	6.5	7.5	8.3	8.8	10.4	11.0

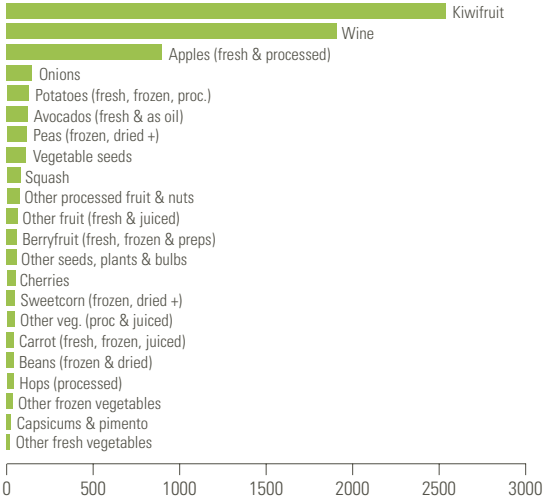
*Source: Statistics New Zealand *Estimate*

→ New Zealand horticultural produce exports in 2020 were a record $6.65 billion fob value and $450 million more than the $6.2b fob value in 2019 – which was also a record. The average value for the five years prior, 2014 to 2018, was $4.8b fob.

→ Compared with 2019, the largest value increases were kiwifruit +$231m, grape wine +$102m, apples +$47m and vegetable seeds +$25m.

→ In 2020, ten product categories were 92% by value of total New Zealand horticultural produce exports (fresh, frozen and other processes): kiwifruit $2,540m (2019: $2,302m), grape wine $1,908m ($1,807m), apples $898m ($853m), onions $148m ($170m), potatoes $126m ($129m), avocados $122m ($110m), peas $115m ($96m), vegetable seeds $112m ($87m), squash $79m ($60m), and cherries $51m ($69m).

Horticultural exports 2020 *($ million, fob)*

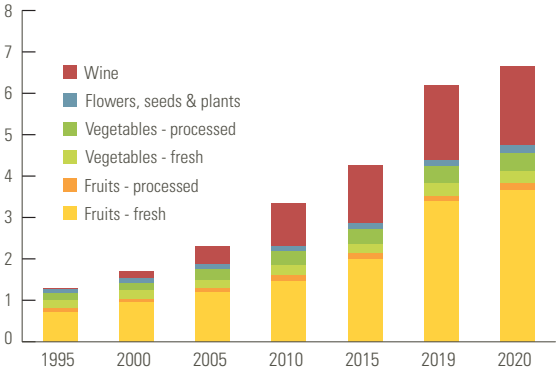


Source: Statistics New Zealand

→ In 2020 five markets, each exceeding $500m fob value, accounted for 68% of New Zealand's total horticultural exports (2019: 68%): to Continental Europe $1,099m (2019: $998m), Japan $917m ($790m), the USA $864m ($786m), Australia $836m ($818m), and China $784m ($753m).

→ Whilst kiwifruit, grape wine, apples, onions, and potatoes were the dominant export crops by values, the export value of some lesser recognised crops have increased markedly in the past ten years:
- Avocados, fresh and as avocado oil: 2020 export value $122m (2010: $62m)
- Peas, frozen and dried, 2020: $115m ($72m)
- Vegetable seeds, 2020: $112m ($57m)
- Cherries, fresh/chilled, 2020: $51m ($23m)
- Hops, as cones and extracts, 2020: $40m ($6m).
- Vegetable juices, dominated by carrot juice, 2020: $34m ($19m)
- Beetroot, processed, 2020: $24m (< $2m)

Horticultural exports – *Years to June ($ billion, fob)*

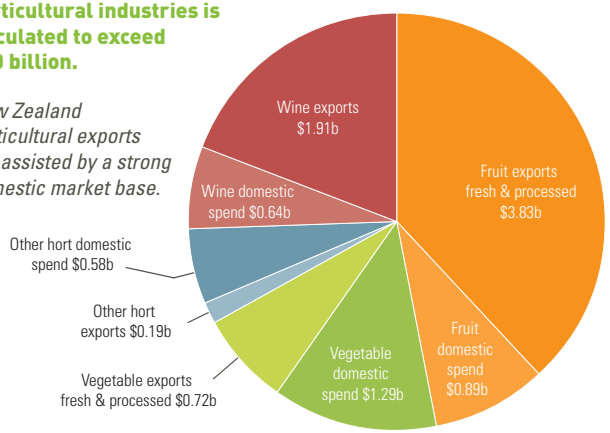


Source: Statistics New Zealand

Exports/imports

Produce from New Zealand's horticultural industries is calculated to exceed $10 billion.

New Zealand horticultural exports are assisted by a strong domestic market base.



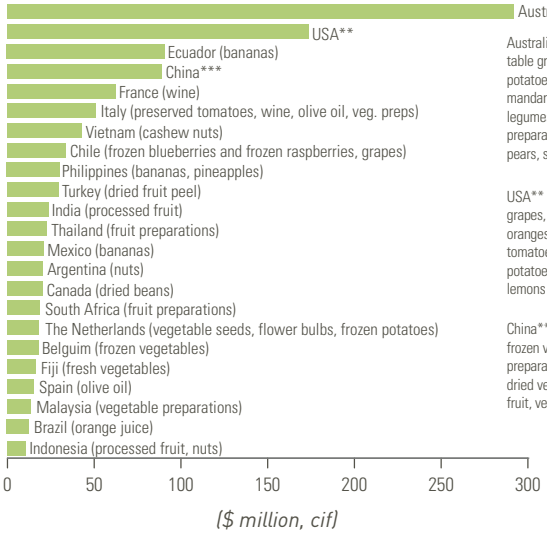
Source: Statistics New Zealand merchandise exports, with domestic market figures derived from the triennial Household Economic Survey (HES) 2019 and Statistics New Zealand estimate of mean number of private dwellings year to 30 June 2020.

Top 10 export destinations *($ million, fob)*

	2010	2019	2020	
Continental Europe	618	998	1099	Kiwifruit, wine, apples, onions, honey*, carrot seed, radish seed, other veg. seeds
Japan	483	790	917	Kiwifruit, honey*, squash, apples, veg. juice, other frozen veg, capsicums, sweetcorn, wine
USA	352	786	864	Wine, kiwifruit, honey*, apples, hops
Australia	702	818	836	Wine, avocados, potatoes, kiwifruit, honey*, beans, blueberries, beetroot, peas, other frozen veg, fruit preparations, sweetcorn
China	100	753	784	Kiwifruit, honey*, apples, frozen peas, wine, cherries
UK	367	544	536	Wine, apples, honey*
Taiwan	108	251	266	Kiwifruit, apples, cherries
Canada	74	169	179	Wine, kiwifruit, apples, honey*
Korea	85	184	161	Kiwifruit, squash
Vietnam	4	90	128	Apples, kiwifruit

*Exports to European ports are combined as 'Continental Europe' recognising cross-border distribution within E.U. and neighbours. UK reported seperately recognising Brexit. Products listed in descending order of value and if value to the destination exceeded NZ $10 million f.o.b. * Consistent with other entries in Fresh Facts, Honey exports are not included in totals (Source: Statistics New Zealand)*

The origin of fruit and vegetable imports 2020



Australia* wine, nuts, table grapes, frozen potatoes, fruit juice, mandararins, melons, legumes, veg. preparations, mangoes, pears, strawberries

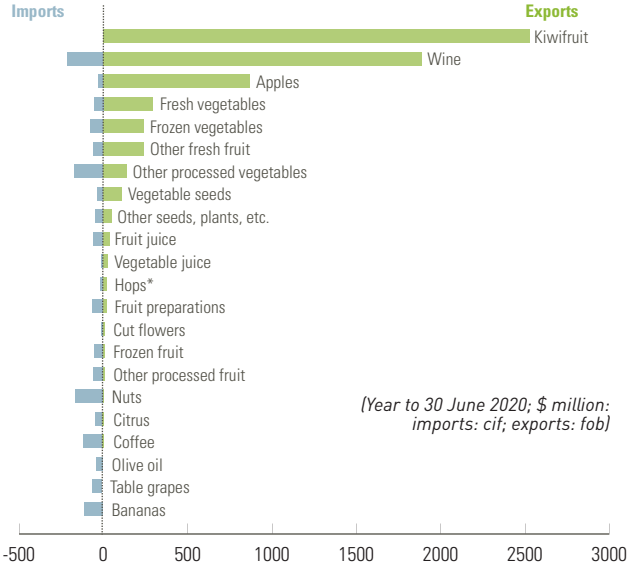
USA** nuts, table grapes, dried fruit peel, oranges, preserved tomatoes, hops, frozen potatoes, mandarins, lemons

China*** edible plants, frozen vegetables, fruit preparations, nuts, garlic, dried vegetables, frozen fruit, veg. preparations

These countries send us more than $10 million (cif) of fruit, vegetables or flowers. Many of these crops are not grown in New Zealand, others complement availability gaps in New Zealand's own seasonal production.
Products listed in descending order of value and named when import value exceeded $5 million cif

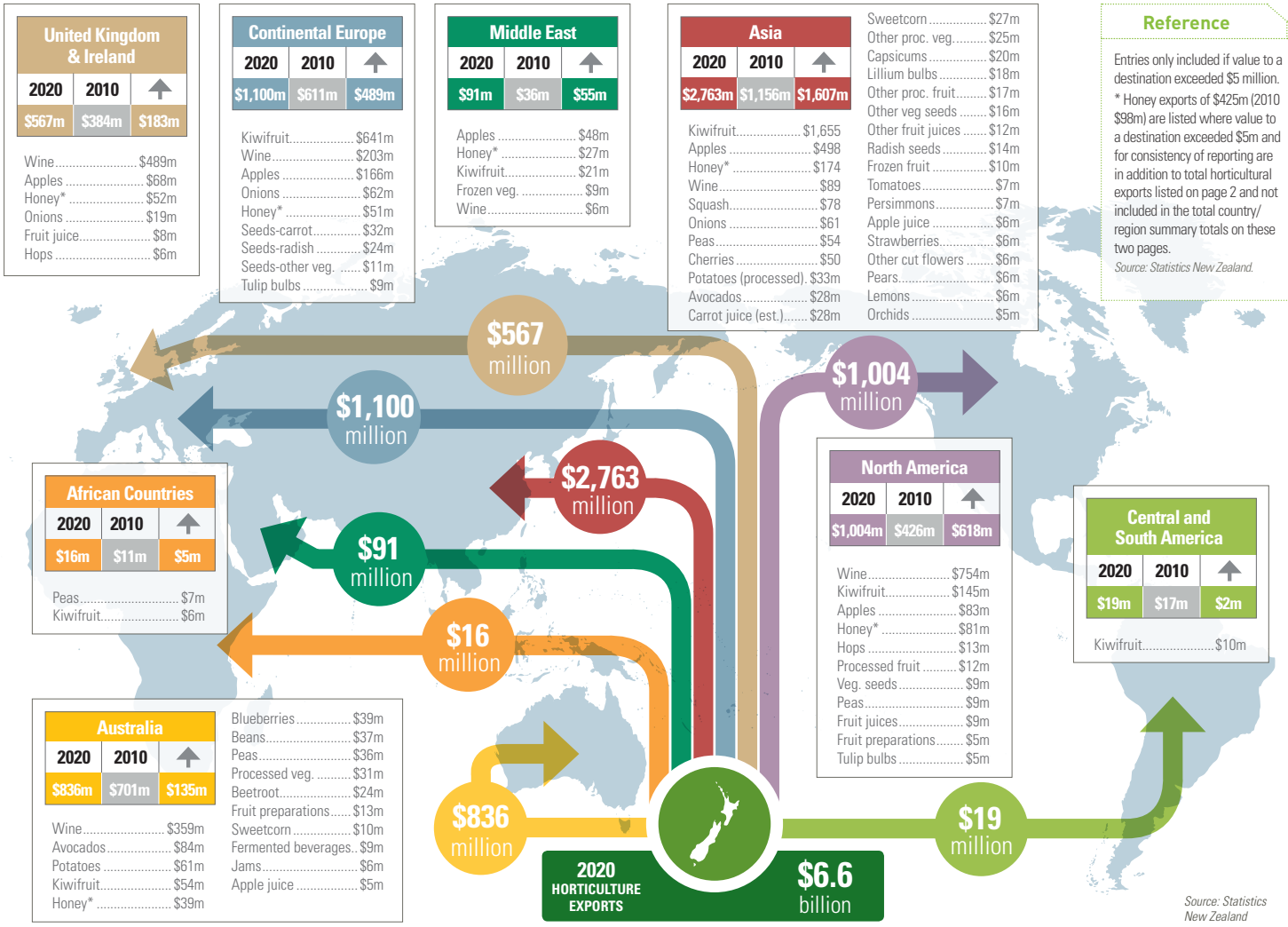
Source: Statistics New Zealand; Overseas Trade statistics for year ended June 2020.

Comparisons of imports and exports 2020 *($ million)*



*Sources: Statistics New Zealand; Overseas Trade Statistics 2020; * authors' estimate*

Export destinations



Horticulture helps to build New Zealand's profile in many overseas markets.

Export destinations for New Zealand horticultural products – trends since 2010 *($ million, fob)*

- New Zealand-grown fruits, vegetables and flowers were exported to 128 countries in 2020, compared with 117 countries in 2010.
- Exports to 31 countries exceeded $10m (fob) in 2020, up from 25 countries in 2010.
- New Zealand also earned over $122m from horticultural machinery and components exports (2010: $52m), as well as additional income from royalties and licence agreements.

Trends

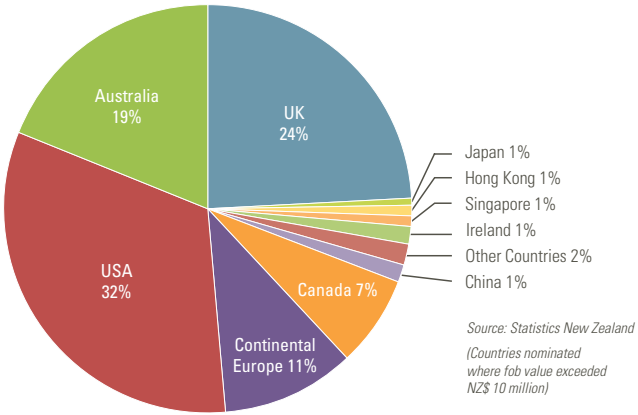
- In 2020 New Zealand fruit and vegetable exports to five markets exceeded $500m fob value: Continental Europe ($1,099m), Japan ($917m), the USA ($864m), Australia ($836m) and China ($784m). These five export markets accounted for $4.5b and more than two thirds (68%) of New Zealand's total horticultural exports in 2020.
- Exports to six other destinations exceeded $100m: the UK $536m, Taiwan $266m, Canada $179m, Korea $166m, Vietnam $128m and Hong Kong $115m. Horticultural exports to Asian countries in 2020 were $2.8b (42% of total NZ horticultural exports).
- The diversity of horticultural products exported is apparent in the 25 products exported to Asia each between $5m and over $1.5b, and to Australia with 16 categories between $5m and over $361m fob value.

Grape and wine production 2015 & 2020

Variety	Production area (ha)		Production (tonnes)	
	2015	2020	2015	2020
Sauvignon blanc	20,266	25,160	216,078	326,058
Pinot noir	5,564	5,642	25,763	34,105
Chardonnay	3,361	3,222	27,015	27,568
Pinot gris	2,456	2,593	19,707	28,849
Merlot	1,320	1,087	9,397	11,168
Reisling	777	569	4,535	4,510
Syrah	435	437	1,497	2,392
Gewurtztraminer	300	219	1,376	1,210
Cabernet Sauvignon	367	217	1,761	1,167
Malbec	37	115	301	793
Other white *Vitis vinifera*	120	190	2,935	2,727
Other red *V. vinifera*	291	93	2,022	1,096
Other and unknown	565	391	13,613	15,357
Total	35,859	39,935	326,000	457,000
Region				
Auckland/Northland	398	390	1,027	1,518
Waikato/Bay of Plenty	24	12	ND	ND
Gisborne	1,914	1,191	17,280	18,959
Hawke's Bay	4,773	5,034	36,057	43,247
Wairarapa	1,006	1,039	3,559	4,472
Marlborough	23,203	27,808	233,182	343,036
Nelson	1,139	1,102	6,777	11,572
Canterbury/Waipara	1,451	1,369	5,395	9,861
Otago	1,951	1,930	8,951	8,515
Other and unknown	0	60	13,772	15,820
Total	35,859	39,935	326,000	457,000

Source: New Zealand Winegrowers Annual Report 2020.
ND = no data. Varieties aggregated as 'other red' or 'other white' all had production < 500 tonnes in 2020

Wine exports by country 2020 *(% by value)*



Source: Statistics New Zealand
(Countries nominated where fob value exceeded NZ$ 10 million)

→ In 2020 wine exports from New Zealand were valued at $1.91b an increase of 84% from 2010 ($1.03b fob). In the same decade, planted area increased by 19.5% from 33,428ha to 39,935ha and production increased by 71.8% from 266,000 tonnes to 457,000 tonnes.

Everything is connected

Examining how vineyard management choices can enhance biodiversity and improve grapevine performance is the focus of the Vineyard Ecosystems programme.

Established in 2015 by New Zealand Winegrowers and the Partnership Fund at MBIE, the seven-year programme involves wide-ranging sampling and analysis across 24 individual vineyards in Marlborough and Hawke's Bay. Statistical modelling is then used to verify trends and indicate cause-and-effect relationships.

Reducing synthetic agrichemical use is an important goal, and the wine industry is already adopting new guidance on how to reduce herbicide applications, provide alternative habitats for pest control, and protect pruning wounds against grapevine trunk disease.

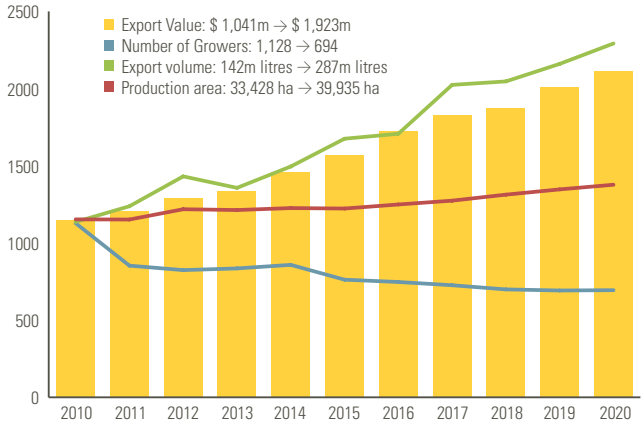
→ 200 years ago the first grape vines in New Zealand were at Kerikeri in the Bay of Islands. In 2020 commercial wine crops were grown across 11 regions with the main varieties being sauvignon blanc 71% (2010: 66%), pinot noir 8% (9%), pinot gris 6% (5%) and chardonnay 6% (10%). Collectively these four varieties were 91% (2010: 89%) of New Zealand's grape wine production tonnage.

→ Opened in 2020, New Zealand's Bragato Research Institute's (BRI) Research Winery is a new research facility to trial world-first technologies, conduct commercial trials, and connect educators and students to science and industry. A study conducted for BRI calculated that wine research and development lead to annual increases of more than $40m in exports, $64m in GDP and 250 new jobs.

→ Features of New Zealand's wine sector include over 96% of New Zealand's vineyard area certified as achieving 'Sustainable Winegrowing' standards, increases in organic winegrowing with now 111 certified organic grape growers and 73 certified organic wineries, and wine tourism with 262 wineries offering 494 wine tourism experiences.

Growth in wine exports *(volume (litres) and value millions of NZ$ fob)*

2010 to 2020 compared with relative change in production area and number of growers *(relative change scaled to 2010 datum point)*



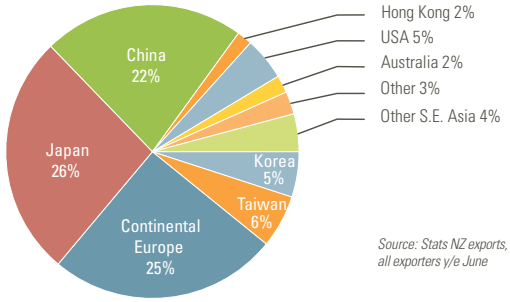
Source: New Zealand Winegrowers Annual Report 2020

Kiwifruit industry: Zespri New Zealand grower and supply chain statistics to 2019/20

Season (ends 31 March)	2004/05	2009/10	2014/15	2018/19	2019/20
Crop volumes (million)					
Trays submitted*	85.8	107.0	97.3	157.7	150.3
Trays sold	79.7	96.5	95.2	148.8	145.2
General Statistics					
Yield (trays/ha)	7,847	8,546	8,662	12,373	11,650
Area planted# (ha)	10,934	12,525	11,233	12,747	12,905
Growers/suppliers‡ (no.)	2,760	2,711	2,540	2,756	2,792
Packhouses (no.)	88	71	50	44	44
Coolstores (no.)	89	77	62	64	63
Orchard Gate Return ($/ha)	$34,738	$39,142	$57,369	$96,033	$107,142

**A tray weighs 3.6 kg. # Producing hectares ‡ Refers to number of submitters*
Source : Zespri International Ltd Annual Review to 2019/20.

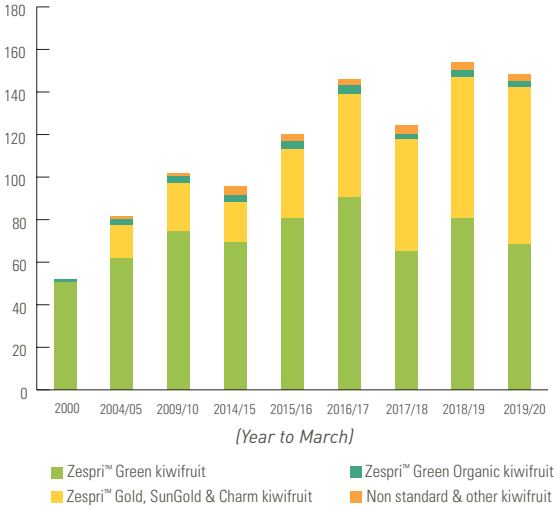
New Zealand kiwifruit export markets *(year to 30 June 2020)*



Source: Stats NZ exports, all exporters y/e June

Zespri® New Zealand production profile (TEs) 2000 - 2019/20

(tray equivalents, millions)



Sources: Zespri International Annual Reviews, years to 31 March
Markets nominated where export value exceeded $40m fob value

Scientists are cracking the code to kiwifruit pollination success

Plant & Food Research scientists and collaborators from the USA have compiled more than 30 years of field-based data from kiwifruit research to create "digital twins" of pollination processes in kiwifruit orchards. These provide mathematical models of the biology of the plants and the behavior of pollinating bees.

The research suggests that fruiting success is more sensitive to variation in plant traits and the female-to-male flower ratio rather than bee density. The models provide a platform to test more questions and develop recommendations for growers.

- At 38% by value, kiwifruit is by far the highest value horticultural export crop of New Zealand's horticultural exports in 2020.
- In 2020 New Zealand exported 552,800 tonnes of kiwifruit valued at $2.53b fob (2019: 545,800t/$2.30b). The averages for the previous five years, 2014 to 2018, were 452,800t and $1.59b fob.
- New Zealand-produced kiwifruit were exported to over 51 countries in 2020, with $1.65b (2019: $1.53b) to Asian countries, two importing more than $500m: Japan $671m (2019: $590m) and China $565m ($510m). In 2020, 65% by value of New Zealand kiwifruit exports were to Asian countries (2018: 66%). Kiwifruit to the value of $641m ($566m) went to countries in Continental Europe.*
- A new red kiwifruit cultivar, the result of 10 years of research and development undertaken by partners Zespri and Plant & Food Research, is in production. Expansion to commercialisation followed strong consumer support from limited releases in New Zealand and Singapore. By mid-2020 the cultivar was being marketed in New Zealand, Singapore and Japan.
- Zespri's established 'Zespri Global Supply' provides their brand with Northern Hemisphere produced fruit equivalent to approximately 10 percent of Zespri's total production and targeted at the three months when New Zealand-grown kiwifruit is unavailable to export markets. During 2019/20, Zespri Global Supply sales reached 19.1 million trays (2018/19:18.4 million trays). Zespri sources kiwifruit from around 750 producers located in Italy, France, Greece, Korea and Japan.

*Sources: Zespri International Annual Reviews, y/e March; * data StatsNZ exports, all exporters y/e June*

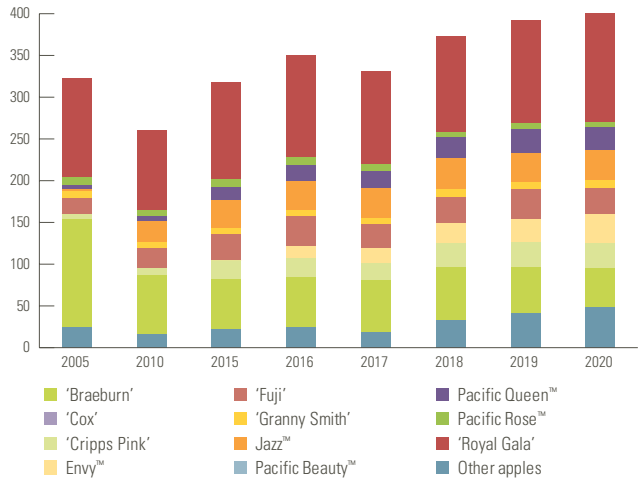
Apple statistics

Year ending 31 Dec. Crop Volumes ('000 tonnes)	2005	2010	2015	2019	2020
National export production ('000 tonnes)	315	260	331	395	402
Growing method: IFP	95%	94%	94%	94%	94%
Certified organic	5%	6%	6%	6%	6%
General statistics					
Export FOB $/TCE *(*)*	$12.88	$22.93	$33.89	$39.58	$40.73
Area planted (ha)	10,764	8,630	8,566	10,179	10,396
Export orchards (no.)	920	985	919	996	990
Export packhouses (no.)	85	62	56	52	57
No. of exporters		90	79	73	80

IFP: Integrated Fruit Production sustainability; TCE: tray equivalents 18 kg sale weight.
Source: NZ Apples & Pears Inc.

- In 2020 New Zealand exported 400,477t of apples in the year to Dec. 2020, a 53% increase on a decade earlier (260,422t in 2010) *Source: NZ Apples & Pears Inc.*
- The modern apple can be traced back to the Silk Road trading routes approx. 2,000 years ago. Today there are more than 7,500 varieties of apples grown worldwide with 24 or more apple varieties grown commercially in New Zealand.
- FAO Stat tracks apple production of 96 countries that in 2019 produced a total of 87.2 million tonnes (Mega tonnes/Mt) of which the largest producing country was China with 42.4Mt (48% of global apple production). 11 other countries each producing more than 1.0Mt totalled 14.9Mt (17%). Those producing more than 3.0Mt each were: USA (5.0Mt), Turkey (3.6Mt) and Poland (3.1Mt). In 2019 New Zealand production was recorded as 553,000t (0.55Mt).
- New Zealand's apple industry has the highest productivity in the world, averaging 65 metric tonnes per hectare per annum. In 2017 and 2018 'The World Apple Review' ranked New Zealand #1 in International Competitiveness among 33 apple-exporting countries, scoring across 23 criteria.

Apple export production by variety: 2005 – 2020 *(tonnes x 000)*



Source: New Zealand Apples & Pears Inc.

First apple released for high temperature regions

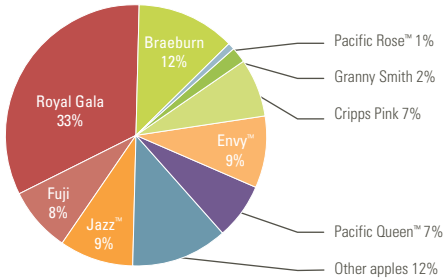
The first apple bred specifically for growing in high temperature areas has been released from the Hot Climate Programme (HCP). 'HOT84A1' is a mid-season, partial red-skinned sweet apple with a lightly crisp and very juicy texture. Commercial plantings have now begun in Spain and will roll out through a global network.

The HCP is a breeding collaboration between New Zealand's Plant & Food Research, Spain's Institute of Agrifood Research and Technology (IRTA) and Catalonia fruit producers Fruit Futur. In 2019, T&G Global joined as the strategic commercialisation partner.

- Global exports of apples in 2019 were 9.8Mt from 62 countries, 6 of which exported more than New Zealand's 391,000 tonnes (0.4Mt) in that year: China (1.0Mt), Poland (1.0Mt), Italy (0.9Mt), USA (0.8Mt), Chile (0.7Mt) and South Africa (0.5Mt).
- New Zealand exported 34,000 tonnes to China in 2020 with a value of $115m (2019: 42,670t/$126m fob).

Apple exports by variety

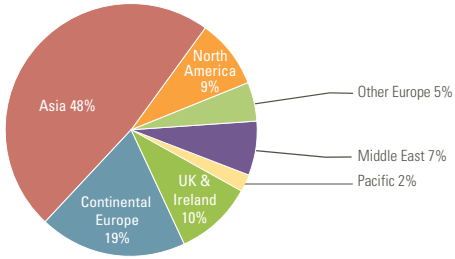
Weight basis, year to Dec. 2020



Source: New Zealand Apples & Pears Inc.

Apple export destinations by region

Weight basis, year to Dec. 2020



Source: New Zealand Apples & Pears Inc.

Other fresh fruits

Sales value ($m)

	Growers[a] (no.)	Planted area[a] (ha)	Crop volume[a] (tonnes)	Domestic[a] 2019/20	Export[b] (fob) 2020
Avocados *(year to 30 April)*	1,034	3,937	39,078	50.6	100.1
Berryfruits	240	3,068	25,900	67.3	50.8
- Blackcurrants	*32*	*1636 [D]*	*8,915 [D]*	*1.0*	
- Boysenberries	*19*	*206 [D]*	*2,700 [D]*	*5.0 [C]*	
- Raspberries	*50*	*150 [D]*	*945 [D]*	*3.0*	*0.1*
- Blueberries	*80*	*680*	*3,640*	*35.3*	*44.4*
- Strawberries	*110*	*276*	*9,200*	*27.4*	*6.2*
- Other berryfruits		*120*	*500*	*0.6*	*0.1*
Citrus	316	1,660	29,743	60.2	9.5
- Grapefruit	*18*	*15*	*372*	*0.7*	
- Lemons	*75*	*257*	*6,999*	*10.8*	*7.2*
- Limes	47	*27*	*712*	*2.7*	
- Mandarins	*192*	*556*	*10,922*	*28.4*	*0.8*
- Oranges	*176*	*783*	*10,101*	*16.6*	*1.0*
- Tangelos	*28*	*22*	*637*	*1.0*	*0.1*
Feijoas	200	150	1,100	3.2	0.1
Grapes - table		48			0.4
Hops	30	920	1,525		
Kiwiberries	28	35 [D]	200 [D]	0.3	4.9
Nashi	13	33	925		0.1
Nuts		958			1.1
- Chestnuts	100	*86*	*350 [D]*		
- Macadamias		*140*			*0.2*
- Hazelnuts		*278*			
- Walnuts		*455*			
- Other nuts					*0.9*
Olives	300	2,130	1,500	0.1	
Passionfruit	60	17 [D]	100 [D]	0.9	0.3
Pears	76	321	2,638		8.9
Persimmons	45	136	1,700	1.3	10.7
Summerfruit	230	2,350	18,315	65.3	55.4
- Apricots	*48*	*380*	*2,544*	*7.8*	*3.7*
- Cherries	*92*	*1080*	*4,721*	*19.9*	*51.3*
- Nectarines	*53*	*310*	*4,901*	*18.6*	
- Peaches	*70*	*315*	*3,450*	*11.0*	*0.3*
- Plums	*73*	*265*	*2,699*	*8.0*	*0.1*
Tamarillos	40	100	448	2.6	
Other fruit		250			
Total fresh fruit *(excl. Kiwifruit, Grape Wine, Apples)*					**242.3**

Sources: [a]Sector estimates, [b]Sector estimates of first point of sale values, [c]Statistics New Zealand Overseas Trade Statistics. [D]Denotes 2019 data. Blank entries indicate either that the information is not available or items are valued at less than $100,000.

New Zealand blackcurrants are proven to improve sports performance

A meta-analysis conducted by scientists from the University of Auckland and Plant & Food Research has concluded that consuming New Zealand blackcurrants improves sports performance compared to a placebo. In addition to improving blood flow, it is possible the unique balance of anthocyanins in New Zealand blackcurrants primes the body's adaptive defence systems, helping to mediate the benefits of exercise training on oxidative stress management, inflammation and immunity.

Processed fruits

Sales value ($m)

	Domestic[a] 2019/20	Export[b] (fob) 2020
Apple juice	80.0 [C]	16.8
Avocado oil	2.6	9.3
Blackcurrant concentrate		7.5
Other fruit juices	92.1 [D]	17.8
Other fermented beverages		11.1
Dried fruits		5.8
Frozen fruits		14.4
- Blackcurrants		*3.6*
- Blueberries	1.6	*0.4*
- Boysenberries	2.7	*3.9*
- Kiwifruit		*5.0*
- Raspberries		*0.2*
- Other		*1.3*
Fruit preparations		25.1
- Apples		*4.8*
- Blackcurrants		*0.1*
- Kiwifruit		*1.1*
- Fruit mixture preps		*15.6*
- Pears		*0.1*
- Other		*3.4*
Hops	9.5	39.9 [C]
Jams, jellies and purees		6.6
Nuts		12.2
Olive oil	9.5	0.5
Total processed fruit		**167**

Fruits used for processing is produced on the orchard areas described in the fresh fruit table. Sources: [a]Sector estimates of first point of sale values, [b]Statistics New Zealand, [c]Authors' estimate. Blank entries indicate either that the information is not available or items are valued at less than $100,000. [D]Denotes 2019 data.

→ New Zealand's fresh and processed fruit exports in 2020 totalled $5.7 billion (2019:$5.3b), were over $1.0b/20% above the previous five-year average of $4.8b (2015 to 2019). The dominant fruit export products were kiwifruit, grape wine, apples and avocados.

→ 2020 kiwifruit exports $2.53b (2019: $2.30b) were 69% of the total fresh fruits export value; apple exports $876m ($829m) were a further 24%. Other fresh fruit exports were avocados $112m ($104m), cherries $51m ($69m), blueberries $44m ($39m), and 28 other fresh fruit crops with a combined value of $47m ($51m).

→ Exports of fruit preparations, typically used as ingredients for baking and as toppings for yoghurt and ice-creams, were $25.1m fob in 2020 (average previous 5 years $29.9m), exported to over 46 countries.

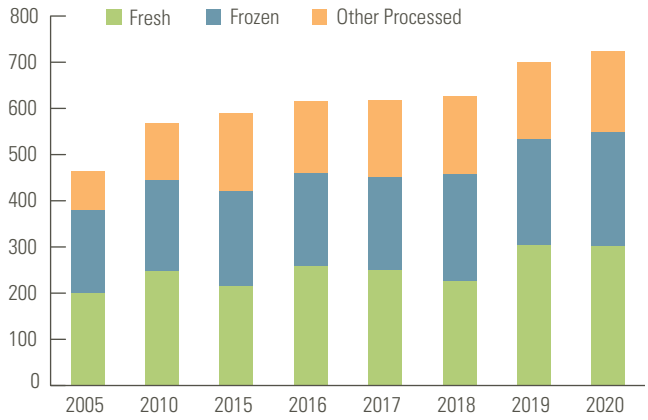
Fresh and processed vegetables

Sales value *($ million, fob)*

	Growers[c] (no.)	Planted area (ha)	Crop volume[c] (tonnes)	Domestic[c] 2020	Exports 2020[g] Fresh	Processed[b]
Asian Greens (incl. kale)		57				
Asparagus	35	520 [c]	2,000	9.1	0.1	
Beans	30	800 [c]	15,600	12.4		
- fresh	*5*	*300 [f]*	*3,000 [o]*	*7.5*		
- processed	*25*	*500 [f]*	*12,600*	*4.9 [o]*		32.2
Beetroot	28	365 [c]	22,800	15.3		
- fresh	*19*	*199 [c]*	*6,000 [o]*	*4.5*		
- processed	*8*	*260 [c]*	*16,800*	*10.8 [o]*		24.1
Brassicas	125	2,868 [c]	115,700	85.0	2.2	
- Broccoli	*75*		*24,700 [o]*	*38.0*		
- Cabbage	*75*		*58,000 [o]*	*22.0*		
- Cauliflower	*20*		*33,000 [o]*	*25.0*		
Capsicums[h]	22	103 [c]	18,760	35.0	24.7	
Carrots	54	1,900 [c]	161,700	58.0		
- fresh	*21*	*916 [f]*	*88,000 [o]*	*40.0*	7.7	
- processed	*34*	*800 [f]*	*73,700*	*18.0 [o]*		2.0
Cucumbers[h]	23	71 [c]	19,780	22.0		
Eggplant/Aubergine	3	9	1,700	12.0		
Garlic	4	178 [c]	1,200 [o]	4.5	1.0	
Herbs			8,070			
Kumara[h]	48	1,600 [c]	24,000 [o]	35.0		
Lettuce	162	1,582		43.0 [o]	0.7	
- outdoor	*140*	*1,532 [c]*		*18.0*		
- greenhouse	*22*	*50 [c]*	3,930	*25.0 [o]*		
Melons	20	222 [c]	4,800 [o]	23.0	1.7	
Mushrooms[h]	7	25 [c]	8,500 [o]	42.0	1.0	
Onions	85	5,296 [c]	235,175	23.4	147.6	
Peas	140					
- fresh	*6*	*16*		*0.5*		
- processed	*120*	*4,075 [c]*	81,000	*25.0 [o]*		115.4
Potatoes (2019)	173	10,417 [c]	533,030	942.7 [r]		
- fresh/ table			*151,800*	*222.3 [r]*	19.6	
- processed			*381,230*	*720.4 [r]*		106.9
Pumpkin	28	603 [c]	38,000 [o]	16.0		
Shallots	4	30 [c]	1,200 [o]	1.0	0.3	
Silverbeet/Spinach	10	2,028 [f]	3,500 [o]	12.5		
Squash (export crop data)	28	6,530 [c]	87,000	3.0 [o]	79.2	
Sweetcorn	179	3,871	91,200	27.5		
- fresh	*26*	*627*	*22,000 [o]*	*10.0*	0.1	
- processed			*69,200*	*16.5 [o]*		47.6
Tomatoes	131	528		128.5		
- outdoor; processed	*6*	*408 [c]*	*53,000 [o]*	*8.5 [o]*		3.9
- greenhouse	*125*	*120 [c]*	*42,000*	*120.0*	11.2	
Truffles[d]	75	70	0.2	0.5 [o]		
Mixed vegetables	*(Made from combinations of the above crops)*					22.1
Dried veg	*(excl. peas, beans, corn)*					9.5
Vegetable preps						3.0
Vegetable juices						33.5
- carrot juice[d]						*31.5*
- other veg. juices						*2.0*
Other vegetables[a]					3.7	23.5
Total	800	45,466 [f]			**300.8**	**423.7**

[a]Includes taro, celery, parsnips, spring onions, Asian vegetables (excl. Chinese cabbage), yams, witloof, leeks, vegetable shoots, shallots, swedes and some others. [b]Processing includes freezing, canning, juicing and artificial drying. [c]Sector estimates. Blank entries indicate that the information is not available. [d]Authors' estimates. [e]Growers produce multiple crops. [f]Statistics New Zealand Production Census crop areas as at 30 June 2017. [g]Statistics New Zealand from export entries. [h]Crop grown both outdoor and indoor/protected. [r] Retail values. [e]Denotes 2019 data.

Vegetable exports 2005 – 2020 *($ million, fob)*



Source: Statistics New Zealand. Years ending 30 June.

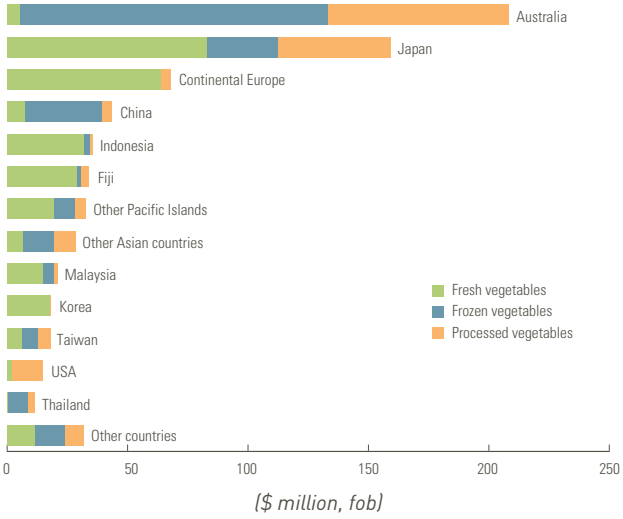
- In 2020 New Zealand exported $724.5m fob value of vegetables with a net weight of 569,800t (2019: $699.0m/518,650t) across more than 20 significant types. The average export value for the five years prior to 2019 was $611.7m fob.
- Four products were 64% by value of all New Zealand vegetable exports in 2020:
  - Onions: $147.6m, with $94m/64% exported to two markets: Continental Europe $61.8m and Indonesia $32.2m.
  - Potatoes: $126.5m; fresh $19.6m, frozen: $97.3m (Australia $58.4m. Asian countries $58.4m), and other processes $9.6m
  - Peas: $115.4m; frozen peas: $80.2m (Australia $32.7m, China $29.5m); and dried peas $35.3m exported to 44 countries.
  - Squash: $79.2m, with $77.8m/98% exported to three markets: Japan $52.7m; Korea $17.7m and China $7.4m.
- Other significant value export vegetables were:
  - Sweetcorn: $47.6m; frozen sweetcorn: $23.9m (Australia $9.6m, Japan $8.3m); dried sweetcorn: $18.1m and sweetcorn preparations (e.g. canned) $5.6m.
  - Beans: $42.0m: preparations $32.2m (Australia $31.1m); frozen $8.7m.
  - Single-vegetable juice (primarily of carrot): $32.9m (Japan $27.2m).
  - Capsicums: 24.7m (Japan $20.4m)
  - Beetroot, processed: $24.1m (Australia $23.6m).
- New Zealand imported 117,300 tonnes of vegetables in 2020 with a cif value of $285m (2019: 121,900t/$274m); preserved tomatoes $35.8m cif (from Italy $18.6m, the USA $9.5m); and frozen potatoes $34.9m (from Australia $13.9m, Continental Europe $9.3m and the USA $7.6m).

Fresh food that is healthy for you and the environment

Sustainable Vegetable Systems (SVS) is a four-year project focused on improving crop nutrient management for the growing of potatoes, onions, brassicas, butternut squash, carrots, and leafy greens. The project has nine commercial field sites across the country and has $7.5 million in backing from MPI and industry.

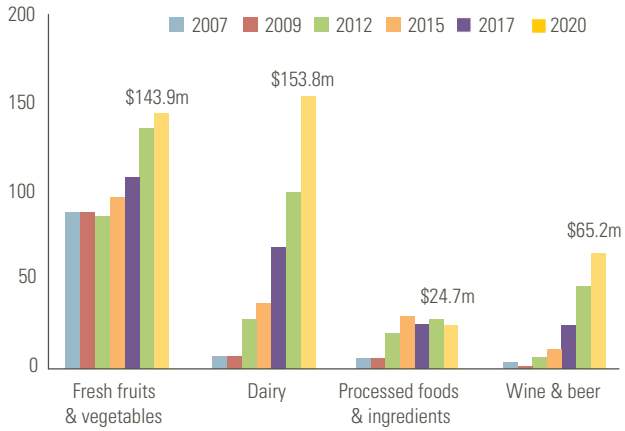
Some of the ways the project plans to assist growers to operate efficiently while reducing their impact on the environment include accurate managing of nutrient flows, robust tools to measure their environmental impact and the development of decision tools to support sustainable growing practices.

Destinations of New Zealand vegetable exports 2020



Source: Statistics New Zealand

New Zealand exports of organically certified produce *($ millions)*

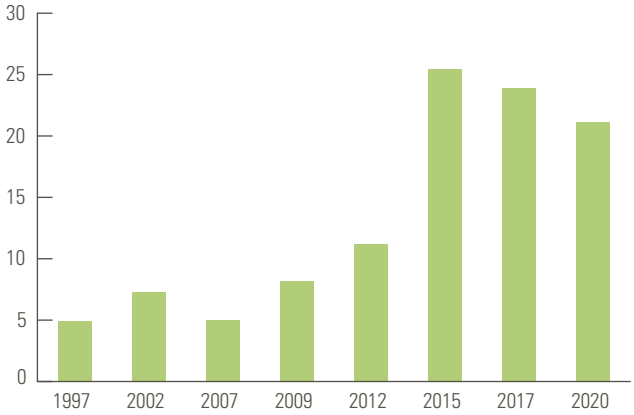


Source: New Zealand Organic Market Report 2020. Years ending March.

Organic production

- Export values of organically certified fresh fruit and vegetables in 2020 were $143.9m and 3.6% of New Zealand's total fresh fruits and vegetables exports.
- Strong growth in exports of organically certified wine in 2020 increased its export value to $65.2m and 3.4% of New Zealand's total wine exports. The area under organic wine grape production was 2,283ha (5.7% of the total planted area for wine grapes). At vintage 2019, New Zealand had 111 certified organic grape growers and 73 certified organic wineries.
- 85,850 hectares of New Zealand's land area was under organic certification in 2020. 18,890ha (22%) was in fruit and vegetables and 2,285ha (3%) in viticulture. A further 6,000ha was under conversion to organics. Decreases in organically certified land since 2015 were primarily in pasture land for grazing.

New Zealand land area under organic certification, horticulture and viticulture *(hectares 000s)*



Exports of flowers, plants, seeds and other products *($ million,fob)*

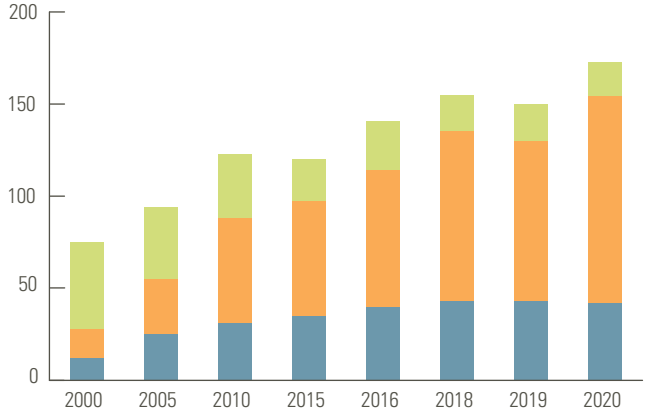
	2000	2010	2015	2019	2020
Cut flowers					
- Chrysanthemums		0.2	0.1	0.1	0.1
- Hydrangeas		2.7	2.8	1.3	1.2
- Liliums	1.9	0.2	0.1	0.1	0.1
- Nerines	0.6	0.2	0.1	0.1	0.1
- Orchids	22.4	20.8	12.9	10.9	9.2
- Paeonies	0.5	1.7	2.0	3.1	2.8
- Pittosporums		1.2	0.5	0.4	0.4
- Proteaceae	1.4	0.9	0.3	0.4	0.3
- Sandersonias	3.1	0.2	0.1	0.1	0.1
- Zantedeschias (Calla lily)	7.7	3.7	0.9	0.3	0.2
- Other foliage	0.6	0.6	0.3		0.1
- Other cut flowers	8.5	2.7	2.8	3.2	3.9
Plants					
- Other live plants	5.6	6.6	4.8	4.1	2.0
- Edible plant parts				2.2	3.9
Seeds					
- Flower seeds	2.1	0.3	0.4	0.1	0.4
- Fruit seeds		1.9	2.4	1.0	2.0
- Cabbage seeds		5.0	4.7	4.0	3.5
- Carrot seeds		7.6	12.2	21.8	33.4
- Onion seeds				2.6	3.6
- Radish seeds		21.4	23.9	25.0	40.6
- Silverbeet seeds			4.0	3.2	0.9
- Other veg. seeds	15.9	23.4	17.7	30.5	30.2
- Tree seeds	1.6	1.5	1.0	2.0	1.5
Bulbs, tubers, corms					
- Liliums		16.8	24.2	24.4	25.8
- Sandersonias		0.7	0.2	0.3	0.7
- Tulips		9.6	9.7	17.4	15.3
- Zantedeschias (Calla lily)	1.5	3.5	0.1		
- Others	10.1	0.4	0.6	0.4	1.6
Sphagnum moss	15.3	6.1	5.2	5.0	5.0*
Total	98.8	139.9	134.0	164.0	188.9

*The term "bulbs" is used to include bulbs, corms, tubers, tuberous roots, crowns & rhizomes. *Authors' estimate.*
Source: Statistics New Zealand.

→ In 2020 New Zealand exported cut flowers and foliage, seeds, bulbs and live plants were worth $188.9m fob (2010: $139.9m).

→ Cut flowers exports of $18.50m were close to half the 2010 export value of $35.9m. 2020 exports were dominated by orchids $9.2m (2010: $20.8m). The largest cut flower export values were to Japan $7.8m and the USA $4.1m.

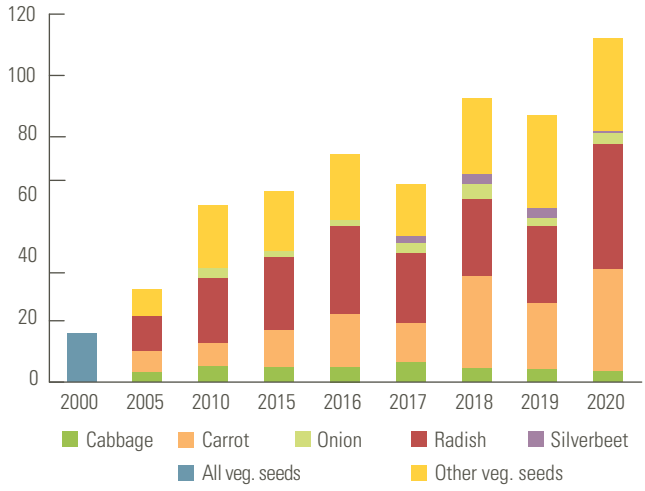
Exports of flowers, seeds and bulbs *($ million, fob)*



→ Exports of seeds were $116.1m in 2020 (2010: $61.1m), of which $112.2m were vegetable seeds exported to 58 countries (2010: $57.4m), an increase of 95% over the decade. Major destinations for vegetable seed exports in 2020 were Continental Europe $67.6m (The Netherlands $50.4m), Asia $30.3m (Korea $10.3m, Japan $9.7m), and the USA $8.8m. Dominant varieties were radish seed $40.6m (2010: $21.4m) to The Netherlands $14.7m, Korea $7.7m, France $4.4m, and Germany $4.0m, and carrot seed $33.3m (2010: $7.6m) to The Netherlands $28.5m.

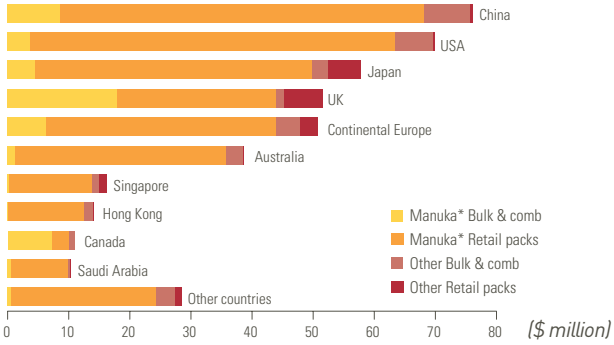
→ Exports of bulbs and live plants were $54.3m (2010: $43.7m). Dominant varieties were lilium bulbs $25.8m (2010: $16.8m) exported to 15 countries (Japan $6.9m, China $7.1m, The Netherlands $3.3m, Viet Nam $2.7m), and tulip bulbs $15.3m (2010: $9.6m) exported to 12 countries (the USA $5.1m, The Netherlands $7.6m).

Vegetable seed exports *($ million)*



Source for above graphs: Statistics New Zealand.

Export destinations for natural New Zealand honey 2020 *($425m fob)*

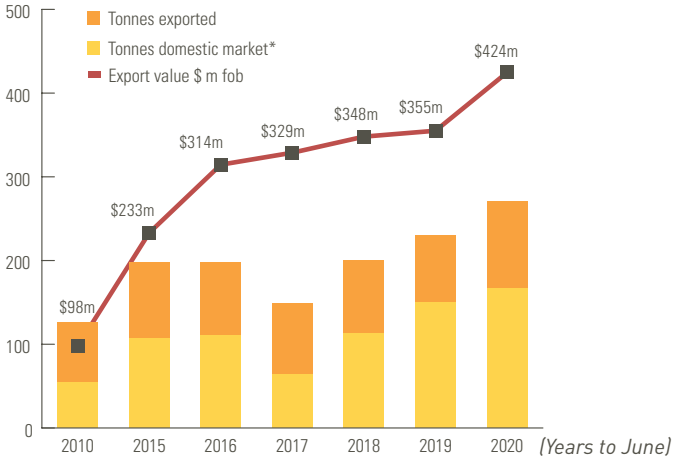


Source: Statistics New Zealand
Countries nominated where export value of NZ honey was more than $10m fob value
** monofloral & multifloral Manuka honey as defined by the Ministry for Primary Industries*

A vital contributor to horticulture

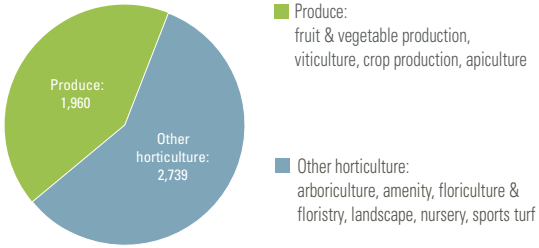
- Bees are crucial to New Zealand's primary sector, pollinating approximately one-third of our food sources.
- Honey production in 2020, at 27,000 tonnes, was up by 4,000 t compared with 2019 and 115% more than a decade earlier (2010: 12,533t). The previous five-year average (2015 to 2019) was 19,500t. Average yield per hive was 31.1kg (2015-2019: 26.0kg).
- In 2020 New Zealand's honey exports went to 62 countries, with a total value of $424.7m fob (2019: $355m), 84% by weight in retail packs (2018: 76%). 2010 export value was $97.6m fob.
- As at June 2020 New Zealand's 9,585 registered beekeepers (2019: 9,282) had 869,056 hives (2019: 918,026 hives) and 130% more than a decade earlier (2010: 376,540). Beekeeping enterprises increased by 3% from 9,282 in 2019 to 9,585 in 2020.

New Zealand natural honey exports 2010 - 2020 *($ m fob/ x 00 tonnes)*



Sources: Statistics New Zealand, MPI SOPI report; AFB.org.nz
** Domestic market fig. is total production less exports; incl. retail, ingredient applications and shrinkage.*

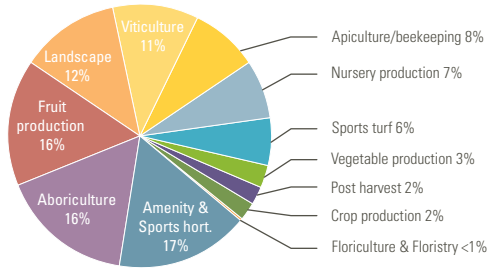
Persons in horticultural training 2020 *(year to December)*



Source: Primary ITO

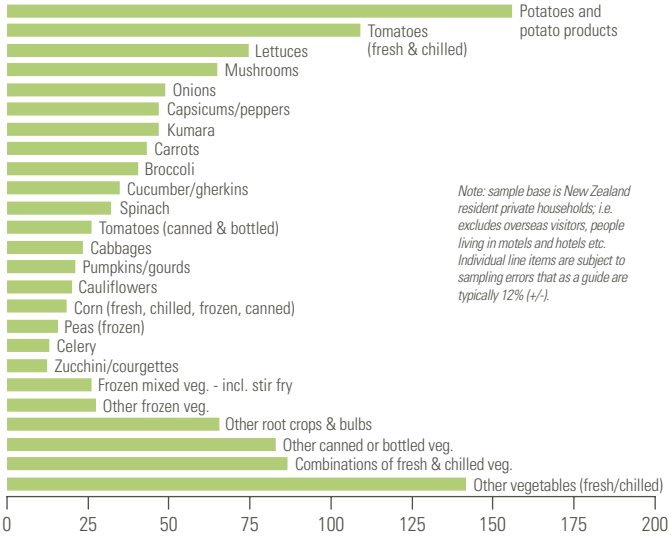
- In 2020 trainees in the different fields of horticulture totalled 4,699 (2019: 4,686).
- Of the 1,960 (2019: 2,049) in food/produce production, 738 (901) were in fruit production and 502 (588) were in viticulture (wine grape) production.
- In the non-food production sectors of horticulture, 1,061 (1,078) trainees were in amenity and sports turf horticulture, 770 (710) in arboriculture, 567 (515) in landscape and 330 (312) in nursery production training.

Trainees by category *(4,699 trainees; year to December 2020)*



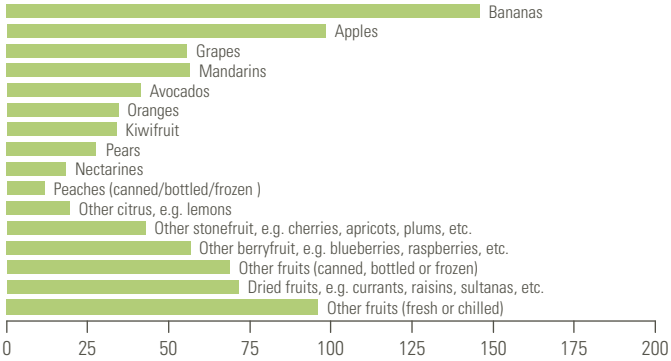
Source: Primary ITO

New Zealand consumer spending on vegetables *(2019, $ million)*



Note: sample base is New Zealand resident private households; i.e. excludes overseas visitors, people living in motels and hotels etc. Individual line items are subject to sampling errors that as a guide are typically 12% (+/-).

New Zealand consumer spending on fruit *(2019, $ million)*



Calculated aggregate annual expenditure by all private New Zealand households (local & imported produce, fresh / chilled / dried / canned / bottled / frozen)

In 2019, New Zealand households spent an estimated $2.9 billion on fruits, vegetables and wine:

- → $ 730m on fresh and chilled fruits
- → $ 150m on processed fruits
- → $ 890m on fresh and chilled vegetables
- → $ 390m on processed vegetables
- → $ 720m on wine

Source: Statistics New Zealand: triennial Household Economic Survey (HES), year ending June 2019.
N.B. survey is of households only and excludes overseas visitors, people living in hotels and motels, etc., and excludes restaurants and takeout meals.

Investment in the horticultural industries *(2020, $ million)*

	Crop area (ha)	On-farm ($ million)	Off-farm ($ million)	Total ($ million)
Apples, pears & nashi	10,750	2,045		
Wine grapes	39,935	7,670		
Kiwifruit	12,905	10,130		
Summerfruit	2,350	270		
Avocados	3,937	1,005		
Citrus	1,660	210		
Berryfruit	3,068	270		
Nuts	958	60		
Olives	2,130	190		
Hops	920	170		
Other fruits	587	50		
Total fruits	79,200	$22,070	$29,800	**$51,870**
Potatoes	10,417	835		
Peas & Beans	4,890	320		
Onions	5,296	425		
Squash	6,530	815		
Sweetcorn	3,871	370		
Broccoli, cabbages & cauliflowers	2,868	170		
Carrots	1,900	115		
Asparagus	520	30		
Lettuces	1,582	95		
Other vegetables	6,863	410		
Veg. seed growing	11,063	665		
Total vegetables (outdoor)	55,800	$4,250	$3,200	**$7,450**
Floriculture - outdoor	1,760	230		
Protected - greenhouse tomatoes	85	385		
- indoor vegetable crops	180	405		
- floriculture (undercover)	105	235		
Total floriculture & protected crops	2,130	$1,250	$300	**$1,550**
Total horticultural	137,130	$27,570	$33,300	**$60,870**

The above table is an estimate of the investment that has been made in the productive area of New Zealand horticulture and related postharvest facilities.

Crop area figures are predominantly industry estimates of planted areas per crop for the year to June 2020 (pgs 8 to 16 incl.) with author adjustments for informal production. The numbers differ from Statistics New Zealand Agricultural Production Census hectares as at June 2017 (pgs 26 & 27). No adjustment has been made for non-productive farm/ orchard/vineyard areas, which are typically 15% of total area and up to 80% for crops such as floriculture under cover.

Land values are based on independent land valuation advice and industry and authors' estimates across crop types that collectively account for more than 75% of fruit production and more than 50% of vegetable production. Off-farm investment amounts have been estimated from industry advice and guidance, including from integrated producers whose supply chains include both production and post-production.

Trends:

- → Highest value horticultural land 2020 was for Kiwifruit Gold varieties with ceiling of $1.2m/ha (Green varieties $660k/ha) in Bay of Plenty region and $955k in Northland (Green $495k/ha).
- → Marlborough had highest value wine grape land at $340k/ha although most of Wairau Valley $175k to $250k/ha compared with Hawke's Bay $85k to $120k/ha.
- → Apple orchard values influenced by variety, returns and yields can peak at $320k/ha but most in $155k-$220k range (Hawke's Bay largest apple crop region). Land value for growing older apple varieties often equates to bare land value $100k to $160k/ha.
- → All sectors have increasing concern around ability to harvest crops, impacting cash-flow and ability to supply contracted volumes. Additionally, some concerns for adequate water supply, for example avocado growers in Northland.

Distribution of fruit by Regional Councils *(area planted, ha)*

As at 30 June 2017

Regional Council Year ended 30 June 2017	Apples	Wine grapes	Kiwifruit	Summerfruit	Avocados	Citrus	Berryfruit	Nuts	Olives	Other subtropical	Other fruits	Total fruits
Northland	20	C	551	8	1,647	313	35	45	118	129	155	3,021+
Auckland	84	836	494	31	281	121	164	86	128	65	13	2,303
Waikato	144	15	412	50	101	13	350	26	34	71	8	1,224
Bay of Plenty	67	75	9,227	7	1,834	62	42	28	26	62	17	11,447
Gisborne	186	1,245	282	12	48	1,136	1	15	C	137	12	3,074+
Hawke's Bay	4,746	3,616	121	633	20	41	116	8	120	142	9	9,572
Taranaki	3	C	C	6	23	2	3	11	C	14	2	63
Manawatu-Wanganui	C	88	116	13	3	1	20	25	34	28	2	330
Wellington	102	832	10	15	8	1	12	42	181	15	43	1,261
Tasman-Nelson	2,400	1,004	440	34	8	7	323	28	72	178	34	4,529
Marlborough	21	23,051	0	45	0	0	6	5	50	8	688	23,874
West Coast	0	C	0	11	0	0	6	1	0	8	0	26+
Canterbury	312	1,769	C	81	C	0	1,103	478	133	17	67	3,960+
Otago	427	1,173	C	1,144	C	0	36	144	19	21	36	3,001+
Southland	C	C	C	31	C	2	66	15	0	0	C	114+
Other/non allocated	104	277	52	19	8	0	37	0	6	4	1	506
Total 2017	**8,615**	**33,981**	**11,705**	**2,140**	**3,979**	**1,700**	**2,321**	**958**	**921**	**899**	**1,086**	**68,305**
2012	8,845	34,562	12,757	2,276	4,149	1,857	2,598	1,344	1,657	1,265	396	71,706
2007	9,247	29,616	13,250	2,294	4,004	1,834	2,497	1,484	2,173	1,500	398	68,297
% change (2007 to 2017)	-7%	15%	-12%	-7%	-1%	-7%	-7%	-35%	-58%	-40%	173%	0%

C - Some data have been suppressed for reasons of respondent confidentiality. + incomplete data set because some crop data are suppressed. Source: Statistics New Zealand Agricultural Production Census - as at June 2007, 2012 & 2017. Note: variations between the data reported in this section with those reported for the individual horticultural sectors can in part be attributed to differences in definitions, sample size and time of sampling.

Distribution of vegetables by Regional Councils *(area planted ha)*

Regional Council Year ended 30 June 2017	Asparagus	Broccoli Cab & Caulis	Carrots	Peas & Beans	Lettuces	Onions	Potatoes	Squash	Sweet corn	Other Veg.	Total Veg.
Northland	0	29	3	3	1	2	8	8	84	1,223	1,361
Auckland	1	1111	255	51	625	1,919	2,242	300	29	1,400	7,933
Waikato	425	236	192	1	16	1,733	1,280	84	83	760	4,809
Bay of Plenty	4	10	0	1	0	0	0	0	14	28	57
Gisborne	1	482	0	167	263	C	C	1,920	1,893	353	5,081
Hawke's Bay	53	78	61	1,360	12	963	236	3,388	872	1,234	8,256
Taranaki	0	16	C	0	0	0	10	0	10	17	53+
Manawatu-Wanganui	191	695	191	224	315	281	984	6	25	735	3,647
Wellington	0	46	0	2	16	1	2	1	C	86	154+
Tasman-Nelson	2	292	13	6	136	46	9	1	32	490	1,027
Marlborough	1	8	92	184	0	33	1	0	637	165	1,120
West Coast	0	1	0	0	0	0	0	0	0	1	3
Canterbury	58	422	814	2,702	110	1,001	4,332	87	188	727	10,441
Otago	7	164	3	0	14	0	196	0	C	43	428+
Southland	0	12	226	0	1	0	140	0	0	314	693
Other	0	30	1	5	22	30	11	0	5	37	141
Total 2017	**744**	**3,632**	**1,851**	**4,705**	**1,532**	**6,009**	**9,450**	**5,794**	**3,871**	**7,613**	**45,202**
2012	820	3,622	2,047	7,858	1,250	5,718	11,578	6,837	4,664	5,313	49,707
2007	871	3,875	1,320	7,515	1,309	4,594	10,050	7,774	6,210	6,261	49,779
% change (2007 to 2017)	-15%	-6%	-40%	-37%	17%	31%	-6%	-25%	-38%	22%	-9%

Distribution of indoor crops *(m^2; 000s)*

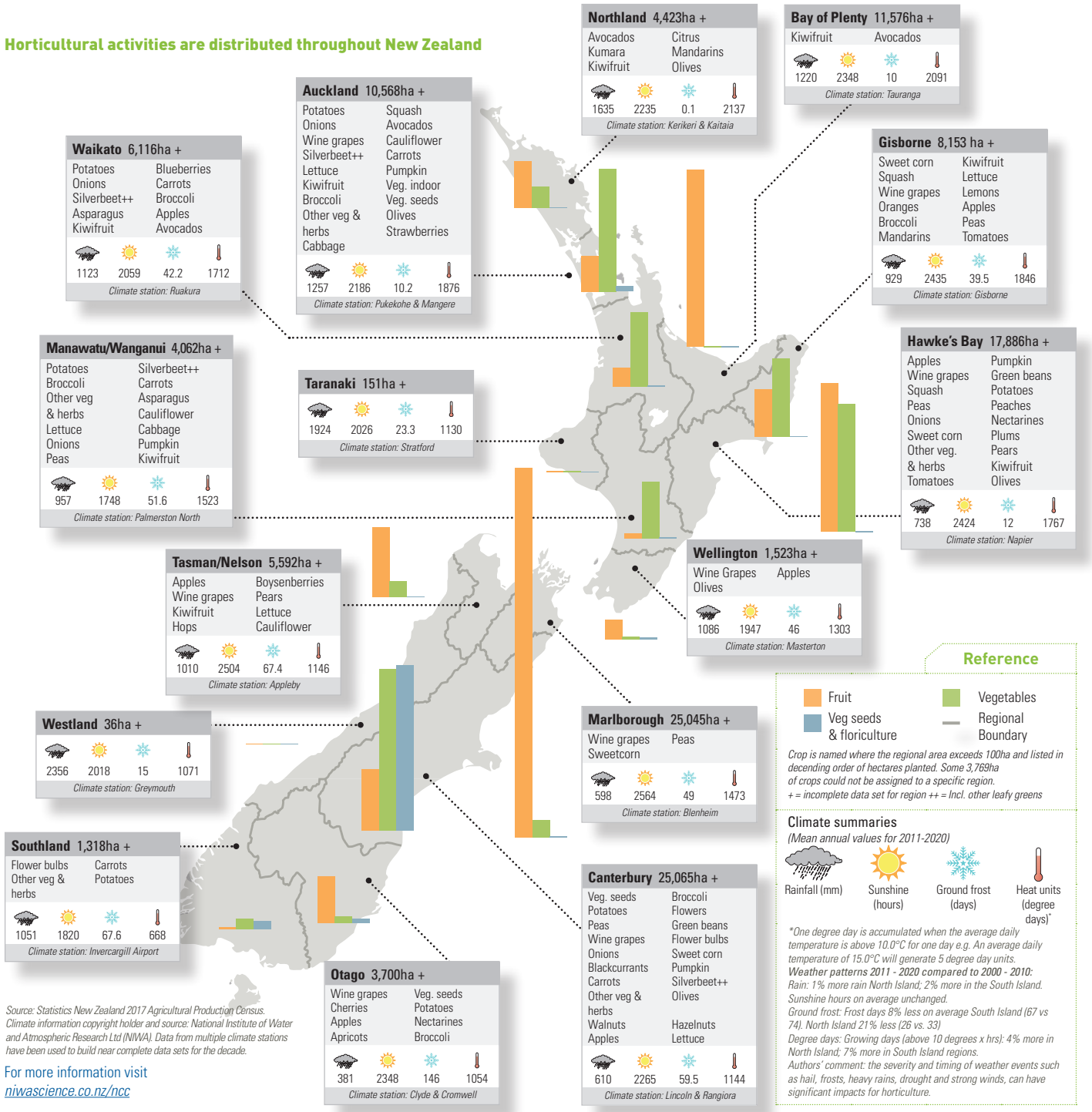
Capsicum	Cucumber	Salad greens	Mush-rooms	Toma-toes	All other veg. & herbs
2	21	21	0	49	13
403	111	207	23	388	246
113	42	22	C	217	91
42	0	16	1	2	12
0	0	0	0	0	0
C	0	0	3	4	3
8	C	11	0	9	13
1	1	47	2	4	6
0	3	41	2	1	15
27	0	13	0	93	10
0	0	14	0	19	30
C	0	3	0	13	0
5	33	32	43	40	14
0	0	11	0	1	1
0	0	3	0	0	0
9	1	0	10	0	0
609	**213**	**441**	**84**	**839**	**454**
572	269	238	152	1,181	359
585	266	n/a	n/a	1,005	n/a
4%	-20%	n/a	n/a	-17%	n/a

For more information visit *www.statistics.govt.nz*

See above notes

(1 ha = 10,000 m^2)

Horticultural activities are distributed throughout New Zealand



Source: Statistics New Zealand 2017 Agricultural Production Census. Climate information copyright holder and source: National Institute of Water and Atmospheric Research Ltd (NIWA). Data from multiple climate stations have been used to build near complete data sets for the decade.

For more information visit
niwascience.co.nz/ncc

Horticentre Charitable Trust

About the Trust

The New Zealand Horticentre Trust was established in 2008 with the objective of providing **'A helping hand for horticulture'**

The Trust encourages Horticulture and Viticulture sector groups to apply for grants to assist them in the promotion of education, training & research in New Zealand.

The NZ Horticentre Trust has three principal sponsors, **Horticentre**, **TasmanCrop** and **HortFertplus**. These three principal sponsors have been providing quality products and services to commercial crop growers since the 1980's.

The NZ Horticentre Trust is proud to be supporting the Horticulture, Viticulture and Nursery sectors in NZ.

Horticulture New Zealand Ahumāra Kai Aotearoa

Plant & Food Research Rangahau Ahumāra Kai

Gratefully acknowledge contributions made by the following organisations:

countdown

Potatoes NEW ZEALAND Growing together

AsureQuality Kaitiaki Kai

United Fresh New Zealand Incorporated

New Zealand Fruitgrowers Charitable Trust

New Zealand Apples & Pears

FRUITION Horticulture

Horticentre Charitable Trust

Zespri KIWIFRUIT

Ministry for Primary Industries Manatū Ahu Matua

Unwanted!

KO TĀTOU THIS IS US
BIOSECURITY 2025

BROWN MARMORATED STINK BUG
(alias BMSB)

ORIGIN: Asia, but has invaded other countries including the USA and Europe.

APPEARANCE: About the size of a $1 coin, shaped like a green vegetable bug with black and white markings.

IMPACTS: It could damage almost any New Zealand horticultural crop. In winter it will move into homes where it overwinters and is not easily treated with insecticides. It omits a nasty odour when squashed.

QUEENSLAND FRUIT FLY
(alias Qfly)

ORIGIN: Queensland, but has spread to other parts of Eastern Australia.

APPEARANCE: Approximately 6-8 mm long, reddish-brown with yellow markings.

IMPACTS: It will attack around 80% of New Zealand horticultural crops, laying its eggs inside fruit. It was eradicated from Auckland in 2015. MPI are undertaking a response in 2019 after separate male Qfly detections; no breeding population has been found.

SPOTTED WING DROSOPHILA
(alias SWD)

ORIGIN: Southeast Asia, but now a major pest in the USA and Europe.

APPEARANCE: Resembles a vinegar fly – about 2-3.5 mm long with a yellow-brown body and red eyes. Males have a black spot near the tip of each wing.

IMPACTS: It lays its eggs in ripening fruit, posing a serious threat to summerfruit, particularly cherries.

SPOTTED LANTERNFLY

ORIGIN: Asia, but has invaded the USA.

APPEARANCE: About 2.5 cm long, with greyish wings with black spots and a body that looks like it's glowing red.

IMPACTS: It feeds on woody and non-woody plants. It sucks sap, which leaks out and promotes mould growth. It can lay its eggs on smooth surfaces, like shipping containers, and covers its eggs in wax so they are hard to see.

CATCH IT | SNAP IT | REPORT IT

PEST HOTLINE
0800 80 99 66

Ko Tātou This Is Us asks all New Zealanders to play a role in preventing pests and diseases from spreading. New Zealand has 4.7 million potential biosecurity champions who can help protect our economy, livelihoods and health from incoming pests and diseases. **ThisIsUs.nz**

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